

Health Update:

Additional Health and Safety Information and Recommendations for Shelters Housing Hurricane-Displaced Persons

September 7, 2005

This document will be updated as new information becomes available. The current version can always be viewed at <http://www.dhss.mo.gov>

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

**Health Update
September 7, 2005**

**FROM: JULIA M. ECKSTEIN
DIRECTOR**

**SUBJECT: Additional Health and Safety Information and Recommendations
for Community Shelters Housing Hurricane-Displaced Persons**

On September 6, the Missouri Department of Health and Senior Services (DHSS) issued a Health Advisory entitled "Prevention of Infectious Diseases in Community Shelters Housing Hurricane-Displaced Persons." This document is available at http://www.dhss.mo.gov/BT_Response/HAdHurricaneK-Shelters9-06-05.pdf.

This Health Update provides additional information and recommendations from DHSS for community shelters housing hurricane-displaced persons. This material is contained in the four attachments:

Attachment A – Emergency Shelters

Attachment B – Feeding Sites and Shelters

Attachment C – Food Handling During a Crisis Situation

Attachment D – Environmental Considerations for EPHS Staff Evaluating
Sheltering and/or Mass Feeding Sites

Questions should be directed to DHSS' Section for Environmental Health at 573/751-6111, or 800/392-0272 (24/7).

Reminder: Continue to check the DHSS Hurricane Recovery Efforts website (http://www.dhss.mo.gov/BT_Response/Recovery.html) for the most current information.

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912 Wildwood
P.O. Box 570
Jefferson City, MO 65102
Telephone: (800) 392-0272
Fax: (573) 751-6041
Web site: <http://www.dhss.mo.gov>

Emergency Shelters.

www.dhss.mo.gov



DURING OR FOLLOWING A DISASTER, HOMES MAY BE INACCESSIBLE, DESTROYED, OR UNINHABITABLE. PEOPLE NEED TEMPORARY LIVING QUARTERS WHERE THEY MAY REST, SLEEP, ATTEND TO PERSONAL HYGIENE, AND RECEIVE SECURITY.

For guidance in determining the physical equipment and operational guidelines for an emergency shelter, the Red Cross has detailed information available in their manuals that will provide assistance to those wishing to set up shelters; however, when considering setting up an emergency shelter, the following items should be considered:

Shelter Site	Isolated Areas for Waste Disposal
Security	Feeding of Residents
Sleeping Accommodations (spacing)	Laundry
Weather (seasons of the year)	Medical Care, Communicable Disease and First Aid
Handwashing, Shower and Toilet Facilities	Insect and Rodent Control
Utilities	Indoor Air Quality
Storage of Toxic Materials	Drinking Water
Animal Control (pets)	

If you have questions or need assistance, please contact your local health department or:

Missouri Department of Health and Senior Services
Division of Community and Public Health
P.O. Box 570
Jefferson City, MO 65102-0570
Telephone: (573) 751-6095

Feeding Sites and shelters.

www.dhss.mo.gov



DURING OR FOLLOWING A DISASTER, HOMES AND BUSINESSES MAY BE INACCESSIBLE, DESTROYED, OR UNINHABITABLE. PEOPLE DISPLACED FROM THEIR HOMES NEED TEMPORARY LIVING QUARTERS WHERE THEY MAY REST, EAT, SLEEP, ATTEND TO PERSONAL HYGIENE, AND RECEIVE SECURITY. IT WILL BE NECESSARY TO PROVIDE FOOD WHILE DISPLACED PERSONS AND VOLUNTEER WORKERS ARE WORKING TO PROTECT AND RECLAIM HOMES AND BUSINESSES. THESE FEEDING SITES ALLOW THE RESCUE WORK TO CONTINUE AT AN UNINTERRUPTED PACE AND FOR THE WORKERS TO MAINTAIN PHYSICAL HEALTH.

- I. Foods should be from commercial sources, e.g., food plants, processors, retail outlets or markets. Prepared foods should be from inspected and approved sources, such as restaurants, schools, churches or institutions.**
 - A.** All foods used should be evaluated for soundness and condition. The types of foods to consider will be:
 1. Commercially canned and processed foods. Any containers exhibiting swelling, leaking, severe dents, and or pitting should not be used. Other types of packages, boxes, and soft-sided containers of plastic or cardboard should be examined for physical damage such as cuts or punctures, exposure to moisture or other physical contamination. Packages exhibiting damage which may have caused the contents to be exposed to contamination should be discarded.
 2. Fresh foods should be observed as to their appearance, smell, and possible temperature abuse and contamination. Fresh meats, dairy, and poultry products stored at temperatures higher than 50°F should be discarded. Fresh fruits and vegetables will remain fresh longer when stored below 50°F.
 3. Frozen foods should be stored at or below 0°F. If a product has partially thawed (e.g., meat with ice crystals still in the product), it should be cooked and served as soon as possible. If a product is fully thawed, at or below 45°F, appears to be in good condition without odors, it may be saved by cooking immediately; otherwise, discard. Home-canned foods should not be used.

II. Food preparation facilities to be considered under emergency situations:

- A. Possible preparation locations that should be considered for a central feeding kitchen include: schools, institutions, churches, restaurants and field kitchens. Possible sources for mobile feeding units are Disaster Relief Units (already organized), Red Cross, and emergency response vehicles. Motor homes and campers should be restricted in use because of limited refrigeration and storage space.
- B. The following facilities are needed at a central food preparation kitchen:
- safe water supply with three-compartment sink to wash, rinse, and sanitize dishes, silverware, and cooking utensils; and
 - handwashing sink equipped with water, soap, towels and a waste container.
 - Adequate equipment for holding hot and cold foods at safe temperatures (135 °F or more for hot foods and 45°F or less for cold foods). A thermometer should be placed in each unit to monitor temperatures of the unit.

III. Food Preparation

- A. Cooking procedures should include the following: Cook foods to the proper temperature (Pork-145°F; Poultry-165°F; Ground Beef-155°F; all others-140°F). A dial-stem thermometer with a temperature range of 0°F to 220°F should be used for checking cooking and holding temperatures.
- B. Prevent cross contamination during storage preparation and service. Handling of the food products should follow a pattern where raw products are handled in one area and cooked products in another to prevent the cooked products from being exposed to the raw products. Once cooked, the food must be covered to prevent further contamination.
- C. Proper storage procedures should be used. Dry products should be stored at least six inches (6") off the ground and must be protected from vermin. Refrigerated foods must be stored at 45°F or less and should be covered while in storage. When refrigeration is necessary, the amount needed is determined by the type and amount of foods stored and the number of persons being served.
- D. Personnel should be experienced in food handling and must be in good general health with no open lesions, fever, vomiting, diarrhea, coughing, sneezing, etc. Also, they must wear clean clothing and follow good hygienic practices. The practice of eating, drinking and smoking while preparing or serving food can cause contamination of the foods.
- E. **Hands must be washed after using the toilet, smoking, eating, drinking, or immediately after they become soiled.**
- F. There should be no bare hand contact with ready-to-eat foods, such as during sandwich assembly, salad preparation, slicing of meats, cheeses, fruits and vegetables. Use of utensils, deli tissues, or single-use gloves is recommended.

- G. Food serving plates, bowls, cups, glasses, and tableware should be of the disposable, single-service type whenever possible. If not single-service, check the material to see if constructed of a durable, cleanable surface with no open seams. Reusable service items must be washed, rinsed and sanitized after each use.

IV. Water Supply

- A. Water used must be from a safe supply. If any doubt exists about the safety of the water supply, it should be disinfected according to Department of Health and Senior Services' guidelines for safe drinking water.

V. Toilet and Handwashing Facilities

- A. Handwashing and flush-type toilet facilities should be close to the preparation area and should be equipped with hot and cold water, soap, towels and trash receptacles. (Pit privies and porta-potties need to be a safe distance from the food preparation area.)

VI. Sewage System and Disposal

- A. Sewage disposal should be adequate (no open standing water or solids) and must not contaminate water or provide insect-breeding areas.

VII. Food distribution and service

- A. Containers used in food delivery to a remote feeding site must be cleanable, durable, tight-closing and able to maintain temperatures of cold food at 45°F or less and hot food at 135°F or above. If the containers are not durable or cleanable, they must be discarded when soiled or in disrepair. Food at the preparation kitchen should never be held between the temperatures of 45°F and 135°F for more than four hours.
- B. Delivery to the remote feeding site must be coordinated so the food can be served without being contaminated by exposure to flies and the elements. Also, refrigerated and hot food items must be maintained at the proper temperature for as long as possible. At a remote site, they must not be served if they have been stored or held for more than four hours at temperatures above 45°F and below 135°F. After feeding at a remote site, the debris should be removed and the equipment returned to the food preparation location for cleaning.
- C. The feeding site must have some type of handwashing facilities for those being fed. These facilities should have safe water, soap, towels and waste containers for towels and water.

VIII. Other Concerns

- A. Pest control should be adequate for the control of insects and rodents. The food service area should be protected with 1/16" mesh screens and self-closing doors.
- B. Waste disposal should not create a nuisance.
- C. Buildings should be of sound condition, cleanable and provide adequate light on working surfaces and sufficient ventilation.
- D. Chemicals and other toxic items should be used according to label directions and stored below and separated from food items.

If you have questions or need assistance, please contact your local health department or:
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Division of Community and Public Health
P.O. Box 570
Jefferson City, MO 65102-0570
Telephone: (573) 751-6111 or the Department Situation Room at 800-392-0272

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Food handling during a crisis situation.

www.dhss.mo.gov



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Food Preparation

Foods being served at a disaster-feeding site need to be of limited preparation (meaning cooking or processing in a few steps and in a short period of time – less than four hours). It is best if the foods are designed to be served straight from the package, served cold (45°F or below) or cooked and served immediately while still hot (135°F or above).

Potentially Hazardous Foods

Special considerations must be given to certain food items – those considered to be potentially hazardous – because of their ability to support rapid and progressive growth of disease-causing bacteria. These food items are normally high in protein and moisture, such as products made with beef, pork, poultry, eggs, fish and milk; however, cooked vegetables, cut melons, rice and baked potatoes are also potentially hazardous and need special consideration.

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The main special considerations for potentially hazardous foods are time and temperature controls. All cooked foods must be cooked to the following internal temperatures: Pork-145°F; Poultry-165°F; Ground Beef-155°F; all others-140°F

Potentially hazardous foods must also receive special temperature treatment while being held in storage prior to cooking. If they are not packaged in hermetically sealed (air-tight) containers, they must be held at 45° F or cooler (preferably 40° F) while under refrigeration or if frozen they must be kept at 0°F or less.

To ensure that these special temperature requirements are met, a bayonet-type probe thermometer, accurate within 2° F (plus or minus) and having a temperature range from 0° to 220° F must be used. In order to keep foods from becoming excessively contaminated, they must be dated immediately when they arrive and are placed into storage. Refrigerated, ready-to-eat foods, with the exception of cured meats, aged cheese products and fresh produce, must be discarded after three days of storage. Any cooked food removed from its heat source that is not maintained at temperatures of 135° F or above must be discarded after four hours. Food should never be held between the temperatures of 45°F and 135°F for more than four hours.

When operating disaster-feeding sites, cooking and serving at once is the best preparation method. Food items should not be cooked, cooled, and reheated for later service because of limiting factors, such as refrigeration capabilities and inexperienced food service staff.

Types of Foods

Foods recommended to serve from a disaster-feeding site are:

Bottled water	Packaged, dried or dehydrated foods
Canned beverages	Prepared and packaged cakes and pies
Canned milk and dried milk	Canned or packaged biscuits, breads, crackers,
Canned meats, fish and poultry	cookies and cake mixes
Canned or packaged staples	Fresh vegetables from commercial sources
Canned fruit, jellies, jams and vegetables	Canned soups
Canned juices	Instant desserts, puddings, Jell-O
Packaged cereal products	Freeze-dried foods

If refrigeration and freezer space are available, the following foods can be served:

- Frozen, pasteurized liquid eggs
- Luncheon meats and packaged cheeses
- Precooked, USDA-inspected packaged meats
- Portioned USDA-inspected packaged raw meats
- Pasteurized milk
- Frozen fish and fish products from inspected plants
- Precut USDA inspected poultry and poultry products
- Packaged frozen desserts
- Concentrated frozen juices

Foods that should be avoided at disaster feeding sites are:

- All home-canned foods

- Foods prepared in private homes

- Any bulging or badly dented or rusted cans of food

- Salads made with meat, fish, eggs, poultry, potatoes, and any sandwiches made with these salads

- Meat and poultry dressings and stuffing **

- Rare or medium-cooked meats, particularly pork, poultry and ground beef

- Cream fillings, cream sauces, creamed meats, custards and gravies**

- Unpasteurized milk

**Exceptions are those stuffing and gravy mixes combined with water and cooked on the stovetop and not with the meat.

If you have questions concerning types or groups of foods or need assistance with menus, contact your local health department, or

Missouri Department of Health and Senior Services

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Division of Community and Public Health

P.O. Box 570

Jefferson City, MO 65102-0570

Telephone: (573) 751-6111 or the Department Situation Room at 800-392-0272

Environmental Considerations for EPHS Staff Evaluating Sheltering and/or Mass Feeding Sites

The following issues need to be examined when conducting shelter or mass feeding site inspections (please refer to the Environmental Health Operational Guidelines section **3.1b, Mass Feeding Centers in Response to Disasters and Emergencies** for in-depth coverage of these issues):

1. Potable Water Supply
2. Adequate Sewage Disposal (public sewer system or functioning on-site system)
3. Building of sound structure with easily cleanable surfaces
4. Hand washing facilities (hot and cold running water, soap, paper towels) in kitchen, toilet areas, and nursery area.
5. Safe Food Service
 - a. Person in Charge with Basic Food Safety Knowledge
 - b. Foods from approved sources
 - i. No home-canned foods
 - ii. Only USDA or MoAg inspected meats
 - iii. Assure soundness of goods if from salvage operations
 - c. Foods cooked to proper temperatures
 - i. Poultry - 165°F
 - ii. Ground Beef - 155°F
 - iii. Pork - 145°F
 - iv. Beef - 140°F
 - v. Vegetables, rice, fruits or hot holding - 140°F
 - d. Hot foods held hot (135°F or greater) and cold foods held cold (45°F or less).
 - e. Food surfaces (preparation surfaces, equipment, utensils,) properly sanitized (three-bin sink or dishwasher)
 - f. Adequate hot and cold holding equipment
 - g. Adequate ventilation to remove vapors and cooking fumes
 - h. Food service personnel healthy with no open wounds, fever, coughs, vomiting or diarrhea and with clean clothes and proper hygiene.
6. Adequate refuse storage area and frequent pick-up (minimum of twice weekly).
7. Pest Control (rodent and fly)
8. Nursery Area
 - a. Diapering area separate from any food/eating area
 - b. Proper sanitizers present for diapering area
 - c. Adequate handwashing facilities
 - d. Proper sanitization of shared toys
9. Animal Control
 - a. Segregation of pets from living/eating area
 - b. Vaccinations for animals